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CLONAL PRODUCTION OF JUVENILE COLORADO, NORWAY AND RED SPRUCE

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Seedling Production

Colorado, Norway and red spruce seed were sown in Jiffy 7 pots on March 30, 1983. There were 30 seedlings of each species and were potted into "5 inch standard round pots" on April 18, 1983. They were grown in a peat/vermiculite mixture (60/40 by volume) amended with Unimix, a potting fertilizer, at the rate of 2.4 kg/m^3. Seedlings were repotted into 3 litre (6" pots) on July 15, 1983 and grown until October. At two week intervals, from June until October, the height, diameter, and number of cuttings on the seedlings were determined. Mean values for these parameters were computed and are displayed in Figure 1.

Cutting Production

On October 20, 1983 cuttings were taken from 1/2 of the surviving seedlings of each species. Average number of cuttings yielded by Norway Spruce, red spruce and Colorado spruce were 64, 36 and 51 respectively (Table 1). The cuttings were planted in Leach Fir Cell containers and placed in their rooting environment (Phillion 1983).

After 2 1/2 months in their rooting environment, the cuttings had rooted and were conditioned to the greenhouse environment. Cuttings were fertilized in an attempt to grow them. The Norway and Colorado cuttings responded and extended their height growth. The red spruce cuttings appeared dormant and could not be flushed.

Cuttings of all species were examined for roots on February 3, 1984. Rooting percentages were computed by clone for each species (Table 1). Mean rooting percentages for each species were as follows:

Norway Spruce = 90% Rooting

Red Spruce = 57% Rooting

Colorado Spruce = 100% Rooting

Literature Cited

Phillion, B.J. 1983. Large-scale production of juvenile black spruce cuttings for progeny tests. Proc. Int. Plant Prog. Soc. Meet. 32:619-625.

Table 1. Number of cuttings obtained off each clone of Norway, Red, and Colorado Spruce and their respective rooting percentages.

Clone #	Norway Spruce # Cuttings Planted	Norway Spruce % Rooted	Red Spruce # Cuttings Planted	Red Spruce % Rooted	Colorado Spruce # Cuttings Planted	Colorado Spruce % Rooted
1	34	88	49	20	60	100
2	97	75	38	59	53	100
3	29	100	19	32	55	100
4	13	100	68	76	23	100
5	39	95	34	79	64	99
6	60	77	55	78	30	100
7	86	48	25	84	59	100
8	84	89	34	88	56	100
9	108	97	34	79	65	100
10	44	100	23	43	49	100
11	120	96	35	49		
12	62	100	26	31		
13	57	100	32	28		
14			35	40		
15			34	62		
$\bar{x}$	64	90%	36	57%	51	100%

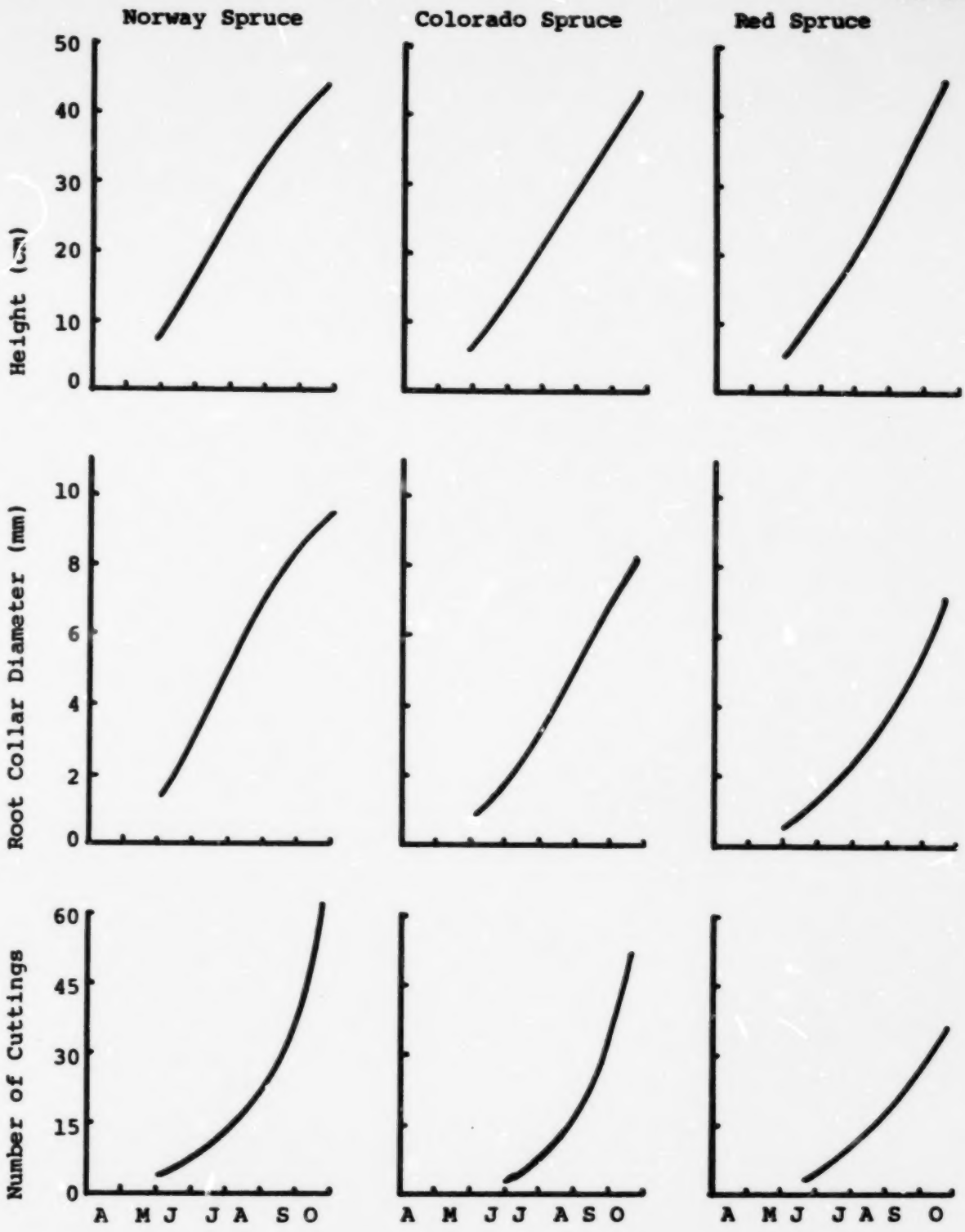

Figure 1. Mean height, root collar diameter, and number of cuttings achieved on Norway spruce, Colorado spruce, and red spruce seedlings over the growing period April 1, 1983 to October 1, 1983.